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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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EXAMINER

LEE, JOHN J

ART UNIT PAPER NUMBER

2684

DATE MAILED: 06/18/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/919,574

Applicant(s)

GINESI ET AL.

Examiner

JOHN J LEE

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 30 July 2001.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-27 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-27 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☒ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date 6.
- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: _____.

DETAILED ACTION

Claim Objections

1. Claims 6 and 19 are objected to because of the following informalities: the spelling of word "signal-to noise ration" should be changed to "signal-to noise ratio".
Appropriate correction is required.

Claim Rejections - 35 USC § 102

2. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

3. **Claims 1-4, 6-11, 13, and 14** are rejected under 35 U.S.C. 102(e) as being anticipated by Chen (US Patent number 6,330,462).

Regarding **claim 1**, Chen discloses that a method of reducing power required for transmitting a signal from a first transceiver to a second transceiver (column 3, lines 47 – column 4, lines 31 and Fig. 2). Chen teaches that estimating an excess amount of power used by said first transceiver for transmitting said signal (column 3, lines 47 – column 4, lines 31 and Fig. 2, where teaches when the transmitter receives data for transmission at a rate, the transmitter first estimates the signal power required to send the data at the selected rate, changes the signal power to match the estimated power and then send). Chen teaches that reducing a power use of said first transceiver by said excess amount of

power to a reduced power level (column 8, lines 35 – column 9, lines 12 and Fig. 3, where teaches a control processor determines whether power should be increased or decreased that the processor determines any necessary power adjustment). Chen teaches that transmitting said signal from said first transceiver using said reduced power level (column 8, lines 35 – column 9, lines 12 and Fig. 3), wherein said reduced power level achieves a transmission rate of said signal within a predefined tolerance of a target rate thereof (column 10, lines 6 – 44 and Fig. 2, 3, where teaches the power levels received are examined and compared to a power threshold which varies depending on whether data being sent at a high or low transmission rate).

Regarding **claim 2**, Chen discloses that the first transceiver is located at one of a central office and a remote loop carrier, and comprises a downstream transmitter and an upstream receiver, and wherein said second transceiver is located at an end user location and comprises an upstream transmitter and a downstream receiver (Fig. 2, 3 and column 8, lines 15 – column 9, lines 12).

Regarding **claim 3**, Chen discloses that the excess amount of power for said signal is estimated in accordance with a measured value of upstream attenuation (column 13, lines 49 – column 14, lines 27 and Fig. 2, 3).

Regarding **claim 4**, Chen discloses that the measured value of upstream attenuation is calculated as a difference between a total transmit power transmitted from said upstream transmitter and a measured power of an upstream signal received at said upstream receiver (column 9, lines 13 – column 10, lines 44 and Fig. 2, 3).

Regarding **claim 6**, Chen discloses that the first transceiver estimates per carrier signal-to-noise ratio (SNR) in accordance with bit-per-carrier, power-per-carrier, and SNR margin information received from said second transceiver (column 12, lines 46 – column 13, lines 40 and Fig. 3, 6).

Regarding **claim 7**, Chen discloses that the first transceiver uses said bit per carrier information for estimating a rate of said signal and a rate of said signal transmitted at a selected reduced power level, for ensuring said transmission rate is maintained within said predefined tolerance (column 10, lines 6 – 44, Fig. 2, 3, and column 12, lines 46 – column 13, lines 40).

Regarding **claims 8 and 10**, Chen discloses that a second initialization is required for transmitting said signal at said reduced power level (column 10, lines 62 – column 11, lines 42 and Fig. 3, 6).

Regarding **claim 9**, Chen discloses that the first transceiver reduces said power in accordance with an excess SNR provided by said second transceiver (column 8, lines 35 – column 9, lines 12 and Fig. 3).

Regarding **claim 11**, Chen discloses that the excess amount of power is estimated by estimating an excess amount of SNR at said second transceiver for said target rate (column 12, lines 46 – column 13, lines 40, Fig. 3, 6, and column 3, lines 47 – column 4, lines 31).

Regarding **claim 13**, Chen discloses all the limitation, as discussed in claim 1. Furthermore, Chen further discloses that calculating at said second transceiver an attainable reduced power level for said transmitted signal (column 8, lines 35 – column 9,

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lines 12 and Fig. 3, where teaches a control processor measures and computes the power level and determines whether power should be increased or decreased that the processor determines any necessary power adjustment). Chen teaches that communicating said reduced power level between said second and first transceivers (column 8, lines 35 – column 9, lines 12 and Fig. 3), wherein said first transceiver adjusts its power level prior to a time period that would require a second initialization (column 11, lines 29 – column 12, lines 3 and Fig. 3, where teaches transmission system is trying to send data at the same time is forced to wait until base station completes one of the current transmissions).

Regarding **claim 14**, Chen discloses that the second transceiver indicates a power cutback implicitly by reducing power-per-carrier information communicated to said first transceiver (column 3, lines 54 – column 4, lines 31 and Fig. 3).

Claim Rejections - 35 USC § 103

4. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

5. **Claim 12** is rejected under 35 U.S.C. 103(a) as being unpatentable over Chen in view of Goldstein (US Patent number 5,265,151).

Regarding **claim 12**, Chen does not specifically disclose the limitation “the first transceiver provides said second transceiver with a minimum SNR inflated by a value N corresponding to said excess amount of power, and wherein said first transceiver

transmits at a power level reduced by said value N if said second transceiver is capable of supporting said minimum SNR inflated by said value N". However, Goldstein discloses the limitation "the first transceiver provides said second transceiver with a minimum SNR inflated by a value N corresponding to said excess amount of power, and wherein said first transceiver transmits at a power level reduced by said value N if said second transceiver is capable of supporting said minimum SNR inflated by said value N" (column 5, lines 57 – column 6, lines 60 and Fig. 3, where teaches the second transceiver measures signal noise ratio (36/34 dB) from power of transmitted signal by first transceiver and compares with a minimum signal noise ratio (29.5 dB) for calculating a value (4dB) corresponding to the access amount of power). It would have been obvious to one having ordinary skill in the art at the time the invention was made to modify the Chen system as taught by Goldstein, provide the motivation to achieve an efficient transmission power control in Digital Data network.

6. **Claims 5 and 15-27** are rejected under 35 U.S.C. 103(a) as being unpatentable over Chen in view of Brown (US Patent number 6,226,356).

Regarding **claims 5 and 18**, Chen discloses all the limitation, as discussed in claims 1 and 13. However, Chen does not specifically disclose the limitation "a value of said excess amount of power of said signal is associated with a value of said upstream attenuation in a table". However, Brown discloses the limitation "a value of said excess amount of power of said signal is associated with a value of said upstream attenuation in a table" (column 4, lines 29 – column 5, lines 24 and Fig. 2, where teaches the amount of

transmission power required to drive the signal can be determined in a variety of ways, including look-up table). It would have been obvious to one having ordinary skill in the art at the time the invention was made to modify the Chen system as taught by Brown, provide the motivation to achieve efficient data transmission with regulating transmission power in Digital Data network.

Regarding **claim 15**, Chen discloses all the limitation, as discussed in claims 1 and 13. However, Chen does not specifically disclose the limitation “for reducing power required for transmitting a signal from a central office asymmetric digital subscriber line (ADSL) termination unit (ATU-C) to a remote ADSL termination unit (ATU-R), wherein said ATU-C includes a processor for controlling said ATU-C to implement processing”. However, Brown discloses the limitation “for reducing power required for transmitting a signal from a central office asymmetric digital subscriber line (ADSL) termination unit (ATU-C) to a remote ADSL termination unit (ATU-R), wherein said ATU-C includes a processor for controlling said ATU-C to implement processing” (Fig. 1, 3, column 4, lines 7 – 28, and column 5, lines 51 – column 6, lines 43, where teaches the host and user interface are ADSL interfaces with processor for controlling). It would have been obvious to one having ordinary skill in the art at the time the invention was made to modify the Chen system as taught by Brown, provide the motivation to improve data transmission reliability and adaptability in Digital Data network.

Regarding **claim 16**, Chen and Brown disclose all the limitation, as discussed in claims 3 and 15.

Regarding **claim 17**, Chen and Brown disclose all the limitation, as discussed in claims 4 and 15.

Regarding **claim 19**, Chen and Brown disclose all the limitation, as discussed in claims 6 and 15.

Regarding **claim 20**, Chen and Brown disclose all the limitation, as discussed in claims 7 and 15.

Regarding **claim 21**, Chen and Brown disclose all the limitation, as discussed in claims 8 and 15.

Regarding **claim 22**, Chen and Brown disclose all the limitation, as discussed in claims 9 and 15.

Regarding **claim 23**, Chen and Brown disclose all the limitation, as discussed in claims 10 and 15.

Regarding **claim 24**, Chen and Brown disclose all the limitation, as discussed in claims 11 and 15.

Regarding **claim 25**, Chen, Goldstein, and Brown disclose all the limitation, as discussed in claims 12 and 15.

Regarding **claim 26**, Chen and Brown disclose all the limitation, as discussed in claims 13 and 15.

Regarding **claim 27**, Chen and Brown disclose all the limitation, as discussed in claims 14 and 15.

Conclusion

The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

Ryoo et al. (US Patent number 6,061,427) discloses Transmission Power Control Method in Asymmetric Digital Subscriber Line System.

Suonsivu et al. (US Patent number 6,542,581) discloses Method for Controlling the Transmission Power in a Digital Subscriber Line.

Bremer et al. (US Patent number 6,647,058) discloses Performance Customization System and Process for Optimizing XDSL Performance.

Any response to this action should be mailed to:

Commissioner of Patents and Trademarks
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or faxed to:

(703) 308-9051, (for formal communications intended for entry)

Or:

(703) 308-6606 (for informal or draft communications, please label
"PROPOSED" or "DRAFT").

Hand-delivered responses should be brought to Crystal Park II, 2121 Crystal Drive, Arlington, VA., Sixth Floor (Receptionist).

Any inquiry concerning this communication or earlier communications from the examiner should be directed to **John J. Lee** whose telephone number is **(703) 306-5936**. He can normally be reached Monday-Thursday and alternate Fridays from 8:30am-5:00 pm. If attempts to reach the examiner are unsuccessful, the examiner's supervisor, **Nay**

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Aung Maung, can be reached on (703) 308-7745. Any inquiry of a general nature or relating to the status of this application should be directed to the Group receptionist whose telephone number is (703) 305-4700.

J.L.
June 9, 2004



John J Lee

NICK CORSARO
PATENT EXAMINER